

126359

SEARCH REQUEST FORM Scientific and Technical Information Center - EIC2800

Rev. 3/15/2004 This is an experimental format -- Please give suggestions or comments to Jeff Harrison, JEF-4B68, 272-2511.

Date 4/30/04 Serial # 10/634,917 Priority Application Date 5/16/03
 Your Name M. Lewis Examiner # _____
 AU 2829 Phone 292-1838 Room 5A30
 In what format would you like your results? Paper is the default. ☒ PAPER ☐ DISK ☐ EMAIL

If submitting more than one search, please prioritize in order of need.

The EIC searcher normally will contact you before beginning a prior art search. If you would like to sit with a searcher for an interactive search, please notify one of the searchers.

Where have you searched so far on this case?

Circle: ☒ USPT ☐ DWPI ☐ EPO Abs ☐ JPO Abs ☐ IBM TDB

Other: _____

What relevant art have you found so far? Please attach pertinent citations or Information Disclosure Statements.

Karmalkar - Zhang - IEDM
US 6555851

What types of references would you like? Please checkmark:

Primary Refs ☒ Nonpatent Literature _____ Other _____
 Secondary Refs ☒ Foreign Patents _____
 Teaching Refs _____

What is the topic, such as the **novelty**, motivation, utility, or other specific facets defining the desired **focus** of this search? Please include the concepts, synonyms, keywords, acronyms, registry numbers, definitions, structures, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract and pertinent claims.

Claims 1-30

Problem: See page 1-3

Solution: 11 11 3+4

First pass of search should be

- Power Semiconductor Device
- Better on Resistance
- Better Breakdown Voltage
- GaN / AlGaN
- 3 + Semicond layers

Staff Use Only	Type of Search	Vendors
Searcher: <u>HARRISON</u>	Structure (#) _____	STN <u>X</u>
Searcher Phone: <u>22511</u>	Bibliographic <u>X</u>	Dialog <u>X</u>
Searcher Location: <u>STIC-EIC2800, JEF-4B68</u>	Litigation _____	Questel/Orbit _____
Date Searcher Picked Up: <u>7-20</u>	Fulltext _____	Lexis-Nexis _____
Date Completed: <u>7-20-04</u>	Patent Family _____	WWW/Internet _____
Searcher Prep/Rev Time: <u>35 + 50</u>	Other _____	Other _____
Online Time: <u>25 + 35</u>		

FILE 'HCAPLUS' ENTERED AT 12:23:52 ON 20 JUL 2004
 E POWER SEMI/CT
 E E4+ALL/CT

L1 13114 SEA ABB=ON PLU=ON "SEMICONDUCTOR DEVICES (L) POWER"/CT OR
 "POWER TRANSISTORS"/CT OR (TRANSISTOR OR FIELD EFFECT OR FET
 OR SEMICONDUCT#####) (3A) (POWER OR SWITCH####) OR SWITCH#### (2A
) POWER###

L2 13981 SEA ABB=ON PLU=ON POWER DEVICE OR L1
 E NITRIDE SEMICON/CT
 S L2 AND (E6 OR NITRIDE SEMICONDUCT##### OR GAN OR ALGAN OR AL

FILE 'REGISTRY' ENTERED AT 12:28:11 ON 20 JUL 2004
 L3 17 SEA ABB=ON PLU=ON GA.N/MF

FILE 'HCAPLUS' ENTERED AT 12:28:11 ON 20 JUL 2004
 L4 15 SEA ABB=ON PLU=ON L3

FILE 'REGISTRY' ENTERED AT 12:28:12 ON 20 JUL 2004
 L5 187 SEA ABB=ON PLU=ON AL.GA.N/MF

FILE 'HCAPLUS' ENTERED AT 12:28:12 ON 20 JUL 2004
 L6 6733 SEA ABB=ON PLU=ON L5
 L7 365 SEA ABB=ON PLU=ON L2 AND (NITRIDES/CT OR NITRIDE SEMICONDUCT#
 ##### OR GAN OR ALGAN OR L6 OR L4 OR GALLIUM NITRIDE)

FILE 'REGISTRY' ENTERED AT 12:29:09 ON 20 JUL 2004
 L8 1 SEA ABB=ON PLU=ON DIAMOND/CN
 L9 1097 SEA ABB=ON PLU=ON (C.SI/MF OR C SI/ELF) AND CARBIDE
 D IDE L8

FILE 'HCAPLUS' ENTERED AT 12:30:28 ON 20 JUL 2004
 L10 116 SEA ABB=ON PLU=ON L2 AND L8
 L11 678 SEA ABB=ON PLU=ON L2 AND L9
 L12 144 SEA ABB=ON PLU=ON L2 AND INTRINSIC
 L13 129 SEA ABB=ON PLU=ON L2 AND (WIDE## BANDGAP OR WIDE## BAND GAP)

FILE 'HCAPLUS' ENTERED AT 12:31:33 ON 20 JUL 2004

FILE 'HCAPLUS' ENTERED AT 12:31:44 ON 20 JUL 2004
 L14 4 SEA ABB=ON PLU=ON L2 AND ((VARY### OR VARI#####) (2A) (BANDGAP
 OR BAND GAP))
 L15 778 SEA ABB=ON PLU=ON L2 AND (STACK##### OR SANDWICH##### OR
 LAMINA##### OR MULTIL? OR (MULTI OR MULTIPLE OR THREE OR FOUR
 OR FIVE OR SIX OR SIXTH OR FIFTH OR FOURTH OR THIRD) (1W) (LAYER#
 ### OR LEVEL###))
 L16 2314 SEA ABB=ON PLU=ON L2 AND (ELECTRODE OR ANODE OR CATHODE OR
 PLATE)
 L17 73 SEA ABB=ON PLU=ON L2 AND ELECTRODE (2A) CONTROL#####
 L18 2288 SEA ABB=ON PLU=ON L2 AND CONTROL#####
 L19 226 SEA ABB=ON PLU=ON L15 AND L16
 L20 2 SEA ABB=ON PLU=ON L15 AND L17
 L21 126 SEA ABB=ON PLU=ON L15 AND L18
 L22 36 SEA ABB=ON PLU=ON L19 AND L21

FILE 'REGISTRY' ENTERED AT 12:36:22 ON 20 JUL 2004
 L23 460 SEA ABB=ON PLU=ON GALLIUM NITRIDE

FILE 'HCAPLUS' ENTERED AT 12:36:39 ON 20 JUL 2004
 L24 297 SEA ABB=ON PLU=ON L2 AND L23
 L25 182 SEA ABB=ON PLU=ON L2 AND (L3 OR L4 OR L5)
 L26 1199 SEA ABB=ON PLU=ON (L7 OR (L10 OR L11 OR L12 OR L13) OR L14
 OR L25)
 L27 1203 SEA ABB=ON PLU=ON (L7 OR (L10 OR L11 OR L12 OR L13) OR L14

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OR L25 OR L24)
L28      316 SEA ABB=ON PLU=ON L15 AND (L16 OR L17 OR L18)
L29      22 SEA ABB=ON PLU=ON L27 AND L28
L*** DEL 32 S L27 AND SCHOTTKY AND (JUNCTION#### OR HETEROJUNCT?)
L30      40 SEA ABB=ON PLU=ON L27 AND SCHOTTKY AND (JUNCTION#### OR
          HETEROJUNCT?)
L31      23 SEA ABB=ON PLU=ON L15 AND (L29 OR L30)
L32      29 SEA ABB=ON PLU=ON L14 OR L20 OR L31
L33      21 SEA ABB=ON PLU=ON (L2 AND (FOURTH OR FIFTH OR FOUR OR
          FIVE) (W) (SEMICOND##### OR LAYER#####))
L34      48 SEA ABB=ON PLU=ON (L32 OR L33)
L35      12 SEA ABB=ON PLU=ON L34 AND (ELECTRODES OR SEPARAT##### (3A) (ELE
          CTRODE OR ANODE OR CATHODE) OR CONTROL#### (3A) (FILM OR
          LAYER#### OR CONDUCT### OR ANODE OR CATHODE))
L36      1 SEA ABB=ON PLU=ON L34 AND PLATE
L37      14 SEA ABB=ON PLU=ON L34 AND (ONRESIST##### OR RESISTANCE#####
          ## OR RESISTIV##### OR BREAK##### OR BROKEN)
L38      34 SEA ABB=ON PLU=ON L34 AND (CONCENTRATION OR WT OR WEIGHT OR
          DENSITY OR THICKNESS OR DISTANCE OR GAP OR DOP#### OR
          IMPURIT### OR IMPLANT##### OR N TYPE OR PTYPE OR CONDUCTIVITY)
L39      48 SEA ABB=ON PLU=ON L14 OR L20 OR L29 OR (L31 OR L32 OR L33 OR
          L34 OR L35 OR L36 OR L37 OR L38)
L40      20 SEA ABB=ON PLU=ON L39 AND (PASSIVAT##### OR INSULAT#####
          OR DIELEC##### OR SURFACE)
          D BIB AB HITSTR TOT
L41      21 SEA ABB=ON PLU=ON L39 AND CONTROL#####
L42      26 SEA ABB=ON PLU=ON L14 OR L20 OR L36 OR L41
L43      15 SEA ABB=ON PLU=ON L42 NOT L40
          D BIB AB HITSTR TOT
L44      15 SEA ABB=ON PLU=ON L8 AND L15
L45      14 SEA ABB=ON PLU=ON L44 NOT (L42 OR L40)
          D BIB AB HITSTR TOT
L46      45 SEA ABB=ON PLU=ON (L5 OR L23 OR L9) AND L2 AND (L15 OR
          (FOURTH OR FIFTH OR FOUR OR FIVE) (W) (SEMICOND##### OR
          LAYER#####))
L47      30 SEA ABB=ON PLU=ON L46 NOT (L45 OR L42 OR L40)
L48      12 SEA ABB=ON PLU=ON L47 AND (PASSIVAT##### OR INSULAT#####
          # OR SCHOTTKY OR JUNCTION##### OR HORIZONTAL OR HETEROJUNCTION
          #####)
          D ALL HITSTR TOT
L49      25 SEA ABB=ON PLU=ON ((L10 OR L11 OR L12 OR L13) OR L17 OR L22
          OR (L24 OR L25) OR (L28 OR L29 OR L30 OR L31 OR L32 OR L33 OR
          L34 OR L35 OR L36 OR L37 OR L38 OR L39 OR L40 OR L41 OR L42 OR
          L43 OR L44 OR L45 OR L46 OR L47 OR L48)) AND SEMICONDUCT#####
          (3A) POWER AND POWER (3A) SWITCH##### AND SEMICONDUCT##### (3A) SW
          ITCH#####
L50      61 SEA ABB=ON PLU=ON L48 OR (L45 OR L42 OR L40)
L51      23 SEA ABB=ON PLU=ON L49 NOT L50
L52      6 SEA ABB=ON PLU=ON L51 AND (SECOND ELECTRODE OR CATHODE (4A) ANO
          DE OR CONTROL#### (1W) ELECTRODE OR (CATHODE OR ANODE OR
          ELECTRODE OR CONDUCT####) (3A) PLATE)
L53      16 SEA ABB=ON PLU=ON ((L8 OR L9) OR L23 OR INTRINSIC OR
          NITRIDES/IT (L) SEMICONDUCT##### OR BANDGAP OR BAND GAP) AND
          L51
L54      21 SEA ABB=ON PLU=ON L51 AND (L52 OR L53)
L55      0 SEA ABB=ON PLU=ON L54 AND SECOND ELECTRODE
L56      3 SEA ABB=ON PLU=ON L54 AND (FOURTH OR FIFTH OR THIRD OR THREE
          OR FIVE OR FOUR)
          D ALL HITSTR TOT
L57      18 SEA ABB=ON PLU=ON L54 NOT L56
L58      6 SEA ABB=ON PLU=ON L57 AND 2002/PY
L59      6 SEA ABB=ON PLU=ON L58 NOT L56
          D ALL HITSTR TOT
          E ELECTRODES/CT
L60      1 SEA ABB=ON PLU=ON L57 AND ELECTRODES+NT/CT

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L61 D ALL HITSTR
 2 SEA ABB=ON PLU=ON L57 AND (?CONNECT?)
 D ALL HITSTR TOT

FILE 'SCISEARCH' ENTERED AT 13:06:02 ON 20 JUL 2004
 E ZHANG N Q, 2000/RE

L62 52 SEA ABB=ON PLU=ON ("ZHANG N Q, 1999, P212, INT C SOL STAT
 DEV M"/RE OR "ZHANG N Q, 1999, V22, P221, COMPUT ELECTRON
 AGR"/RE OR "ZHANG N Q, 2000"/RE OR "ZHANG N Q, 2000, V21, IEEE
 ELECT DEVICE LE"/RE OR "ZHANG N Q, 2000, V21, P373, IEEE ELECT
 DEVICE LE"/RE OR "ZHANG N Q, 2000, V21, P373, IEEE ELECTR
 DEVICE L"/RE OR "ZHANG N Q, 2000, V21, P421, IEEE ELECTR
 DEVICE L"/RE OR "ZHANG N Q, 2001, 4 INT C NITR SEM DEN"/RE OR
 "ZHANG N Q, 2001, IEDM TECH DIG"/RE OR "ZHANG N Q, 2001, P589,
 IEDM"/RE OR "ZHANG N Q, 2001, P589, IEDM TECH DIG"/RE OR
 "ZHANG N Q, 2001, V188, P213, PHYS STATUS SOLIDI A"/RE)

L63 7 SEA ABB=ON PLU=ON KARMALKAR S, 2001?/RE
 L64 55 SEA ABB=ON PLU=ON (L62 OR L63)
 L65 26 SEA ABB=ON PLU=ON L64 AND PY<2003
 L66 5 SEA ABB=ON PLU=ON L65 AND (STACK##### OR SANDWICH##### OR
 MULTIL##### OR MULTIPLE OR MULTI OR SEVERAL OR THIRD OR
 FOURTH OR FIFTH OR THREE OR FOUR OR FIVE)
 D ALL TOT

FILE 'WPIX, EUROPATFULL, PCTFULL' ENTERED AT 14:55:33 ON 20 JUL 2004

L1 61952 SEA ABB=ON PLU=ON FIELD PLATE OR FIELD ELECTRODE OR PLATE##(2
A)(ELECTRODE OR CONDUCT###)

L2 27873 SEA ABB=ON PLU=ON CONTROL##(2W)(ELECTRODE OR CONDUCT###)

L3 15256 SEA ABB=ON PLU=ON THIRD(W) LAYER OR THIRD(W) SEMICONDUCT####(
W) LAYER

L4 46816 SEA ABB=ON PLU=ON SEPARATE##(2A) ELECTRODE OR SECOND(W)
ELECTRODE OR MAIN ELECTRODES OR PRIMARY ELECTRODES

L5 96 SEA ABB=ON PLU=ON L2 AND L3 AND L4

L6 13 SEA ABB=ON PLU=ON L1 AND L5

L7 75146 SEA ABB=ON PLU=ON N TYPE OR P TYPE OR CONDUCTIVITY TYPE OR
FIRST CONDUCTIVITY

L8 57 SEA ABB=ON PLU=ON L5 AND L7

L9 331756 SEA ABB=ON PLU=ON (BETWEEN OR SEPARAT###)(3A)(CONTROL#### OR
ELECTRODE)

L10 48 SEA ABB=ON PLU=ON L8 AND L9

L11 947 SEA ABB=ON PLU=ON SECOND PRIMARY ELECTRODE OR SECOND MAIN
ELECTRODE

L12 11 SEA ABB=ON PLU=ON L10 AND L11

L13 12 SEA ABB=ON PLU=ON L6 AND (L7 OR L8 OR L9 OR L10 OR L11)

L14 16 SEA ABB=ON PLU=ON (L12 OR L13) AND (FOURTH OR FIFTH) (W) (SEMIC
ONDUCT### OR LAYER)

L15 6 SEA ABB=ON PLU=ON (L12 OR L13 OR L14) AND (POWER OR SWITCH###
)/TI,AB,CE
D TI 1-6
D BIB AB KWIC 1-6

L16 24 SEA ABB=ON PLU=ON L6 OR (L12 OR L13 OR L14 OR L15)
D TI 1-24
D MAX 1

L17 5 SEA ABB=ON PLU=ON (L5 OR L8 OR L10) AND POWER/TI AND
(SWITCH### OR DEVICE)/TI
D TI 1-5
D MAX 1-2
D BIB AB KWIC 3-5

CAS/STN FILE 'HCAPLUS' ENTERED AT 12:23:52 ON 20 JUL 2004

E POWER SEMI/CT

L1 13114 S "SEMICONDUCTOR DEVICES (L) POWER"/CT OR "POWER TRANSISTORS"/CT OR (TRANSISTOR OR FIELD
EFFECT OR FET OR SEMICONDUCT#####) (3A) (POWER OR SWITCH####) OR SWITCH#### (2A) POWER###
L2 13981 S POWER DEVICE OR L1
S L2 AND (E6 OR NITRIDE SEMICONDUCT##### OR GAN OR ALGAN OR AL

FILE 'REGISTRY' ENTERED AT 12:28:11 ON 20 JUL 2004

L3 17 S GA.N/MF

FILE 'HCAPLUS' ENTERED AT 12:28:11 ON 20 JUL 2004

L4 15 S L3

FILE 'REGISTRY' ENTERED AT 12:28:12 ON 20 JUL 2004

L5 187 S AL.GA.N/MF

FILE 'HCAPLUS' ENTERED AT 12:28:12 ON 20 JUL 2004

L6 6733 S L5
L7 365 S L2 AND (NITRIDES/CT OR NITRIDE SEMICONDUCT##### OR GAN OR ALGAN OR L6 OR L4 OR GALLIUM
NITRIDE)

FILE 'REGISTRY' ENTERED AT 12:29:09 ON 20 JUL 2004

L8 1 S DIAMOND/CN
L9 1097 S (C.SI/MF OR C SI/ELF) AND CARBIDE

FILE 'HCAPLUS' ENTERED AT 12:30:28 ON 20 JUL 2004

L10 116 S L2 AND L8
L11 678 S L2 AND L9
L12 144 S L2 AND INTRINSIC
L13 129 S L2 AND (WIDE## BANDGAP OR WIDE## BAND GAP)
L14 4 S L2 AND ((VARY### OR VARI#####) (2A) (BANDGAP OR BAND GAP))
L15 778 S L2 AND (STACK##### OR SANDWICH##### OR LAMINA##### OR MULTIL? OR (MULTI OR MULTIPLE
OR THREE OR FOUR OR FIVE OR SIX OR SIXTH OR FIFTH OR FOURTH OR THIRD) (1W) (LAYER#### OR LEVEL####))
L16 2314 S L2 AND (ELECTRODE OR ANODE OR CATHODE OR PLATE)
L17 73 S L2 AND ELECTRODE (2A) CONTROL#####
L18 2288 S L2 AND CONTROL#####
L19 226 S L15 AND L16
L20 2 S L15 AND L17
L21 126 S L15 AND L18
L22 36 S L19 AND L21

FILE 'REGISTRY' ENTERED

L23 460 S GALLIUM NITRIDE

FILE 'HCAPLUS' ENTERED

L24 297 S L2 AND L23
L25 182 S L2 AND (L3 OR L4 OR L5)
L26 1199 S (L7 OR (L10 OR L11 OR L12 OR L13) OR L14 OR L25)
L27 1203 S (L7 OR (L10 OR L11 OR L12 OR L13) OR L14 OR L25 OR L24)
L28 316 S L15 AND (L16 OR L17 OR L18)
L29 22 S L27 AND L28
L30 40 S L27 AND SCHOTTKY AND (JUNCTION#### OR HETEROJUNCT?)
L31 23 S L15 AND (L29 OR L30)
L32 29 S L14 OR L20 OR L31
L33 21 S (L2 AND (FOURTH OR FIFTH OR FOUR OR FIVE) (W) (SEMICOND##### OR LAYER#####))
L34 48 S (L32 OR L33)
L35 12 S L34 AND (ELECTRODES OR SEPARAT##### (3A) (ELECTRODE OR ANODE OR CATHODE) OR
CONTROL#### (3A) (FILM OR LAYER#### OR CONDUCT#### OR ANODE OR CATHODE))
L36 1 S L34 AND PLATE
L37 14 S L34 AND (ONRESIST##### OR RESISTANCE##### OR RESISTIV##### OR BREAK##### OR
BROKEN)
L38 34 S L34 AND (CONCENTRATION OR WT OR WEIGHT OR DENSITY OR THICKNESS OR DISTANCE OR GAP OR
DOP##### OR IMPURIT### OR IMPLANT##### OR N TYPE OR PTYPE OR CONDUCTIVITY)
L39 48 S L14 OR L20 OR L29 OR (L31 OR L32 OR L33 OR L34 OR L35 OR L36 OR L37 OR L38)
L40 20 S L39 AND (PASSIVAT##### OR INSULAT##### OR DIELEC##### OR SURFACE)
L41 21 S L39 AND CONTROL#####
L42 26 S L14 OR L20 OR L36 OR L41
L43 15 S L42 NOT L40
L44 15 S L8 AND L15
L45 14 S L44 NOT (L42 OR L40)
L46 45 S (L5 OR L23 OR L9) AND L2 AND (L15 OR (FOURTH OR FIFTH OR FOUR OR
FIVE) (W) (SEMICOND##### OR LAYER#####))
L47 30 S L46 NOT (L45 OR L42 OR L40)

FILE 'HCAPLUS' ENTERED

L48 12 S L47 AND (PASSIVAT##### OR INSULAT##### OR SCHOTTKY OR JUNCTION##### OR
 HORIZONTAL OR HETEROJUNCTION#####)
 L49 25 S ((L10 OR L11 OR L12 OR L13) OR L17 OR L22 OR (L24 OR L25) OR (L28 OR L29 OR L30 OR L31
 OR L32 OR L33 OR L34 OR L35 OR L36 OR L37 OR L38 OR L39 OR L40 OR L41 OR L42 OR L43 OR L44 OR L45 OR L46 OR L47
 OR L48)) AND SEMICONDUCT##### (3A) POWER AND POWER (3A) SWITCH##### AND SEMICONDUCT##### (3A) SWITCH#####
 L50 61 S L48 OR (L45 OR L42 OR L40)
 L51 23 S L49 NOT L50
 L52 6 S L51 AND (SECOND ELECTRODE OR CATHODE (4A) ANODE OR CONTROL#### (1W) ELECTRODE OR (CATHODE
 OR ANODE OR ELECTRODE OR CONDUCT####) (3A) PLATE)
 L53 16 S ((L8 OR L9) OR L23 OR INTRINSIC OR
 NITRIDES/IT(L) SEMICONDUCT##### OR BANDGAP OR BAND GAP) AND L51
 L54 21 S L51 AND (L52 OR L53)
 L55 0 S L54 AND SECOND ELECTRODE
 L56 3 S L54 AND (FOURTH OR FIFTH OR THIRD OR THREE OR FIVE OR FOUR)
 L57 18 S L54 NOT L56
 L58 6 S L57 AND 2002/PY
 L59 6 S L58 NOT L56
 L60 1 S L57 AND ELECTRODES+NT/CT
 L61 2 S L57 AND (?CONNECT?)

FILE 'SCISEARCH' ENTERED

E ZHANG N Q, 2000/RE
 L62 52 S (ZHANG N Q, 2000"/RE OR "ZHANG N Q, 2000, V21, IEEE ELECT DEVICE LE"/RE OR)
 L63 7 S KARMALKAR S, 2001?/RE
 L64 55 S (L62 OR L63)
 L65 26 S L64 AND PY<2003
 L66 5 S L65 AND (STACK##### OR SANDWICH##### OR MULTIL##### OR MULTIPLE OR MULTI OR SEVERAL
 OR THIRD OR FOURTH OR FIFTH OR THREE OR FOUR OR FIVE)

20jul04 08:54:13 User259284 Session D2847.2

File 2:INSPEC 1969-2004/Jul W2
(c) 2004 Institution of Electrical Engineers

Set	Items	Description
S1	3863	POWER????(5N)SEMICOND?????? AND POWER????(5N)SWITCH????? A-ND SWITCH????(5N)SEMICOND??????????
S2	144	S1 AND (STACK? OR SANDWICH? OR MULTIL? OR (MULTIPLE OR MULTIL? OR THREE OR FOUR OR FIVE) (2W) (LAYER????? OR FILM OR FILMS))
S3	2	S2 AND ON()RESISTANCE??
S4	0	S2 AND ON()RESISTIVIT???
S5	39096	R1:R4 OR R6 OR R8:R17
S6	905	S5 AND (STACK? OR SANDWICH? OR MULTIL? OR (MULTIPLE OR MULTIL? OR THREE OR FOUR OR FIVE) (2W) (LAYER????? OR FILM OR FILMS))
S7	906	S2 OR S6
S8	39258	S1 OR S5
S9	18	S7 AND SCHOTTKY
S10	980	S8 AND SCHOTTKY
S11	933	S7:S8 AND (RESISTANCE?? OR RESISTIV?????? OR ONRESIST?) AND (AVALANCH? OR BREAKDOWN? OR BREAK????? OR BROKE?????)
S12	408	(S2 OR S6:S7 OR S9:S11) AND (DIAMOND OR SIC OR GAN OR ALGAN OR NITRIDE())SEMICONDUCT????? OR CI=SIC OR CI=CSI OR CI=GAN OR CI=ALGAN OR CI=(AL SS(S)GA SS(S)N SS))
S13	47	(S2 OR S6:S7 OR S9:S11) AND CI=(GA SS(S)N SS) (S)NE=2
S14	54	(S2 OR S6:S7 OR S9:S11) AND CI=(GA SS(S)N SS) (S)NE=3
S15	1	(S2 OR S6:S7 OR S9:S11) AND CI=(GA SS(S)N SS) (S)NE=4
S16	8	(S2 OR S6:S7 OR S9:S11) AND CI=(GA BIN(S)N BIN) (S)NE=4
S17	50	(S2 OR S6:S7 OR S9:S11) AND CI=(GA BIN(S)N BIN) (S)NE=3
S18	91	(S2 OR S6:S7 OR S9:S11) AND CI=(GA BIN(S)N BIN) (S)NE=2
S19	91	(S2 OR S6:S7 OR S9:S11) AND CI=(GA BIN(S)N BIN)
S20	410	S12:S19
S21	34	S20 AND (S2 OR S6)
S22	5	S21 AND (PASSIVAT?????? OR INSULAT?????? OR DIELEC?????????)
S23	3	S21 AND (PLATE OR PLATES OR ANODE? ? OR CATHODE? ? OR ELECTRODE? ? OR CONTROL?????(2N) (ELECTRODE? ?))
S24	15	S15:S16 OR S22:S23
S25	15	S24 NOT S3
S26	10	S25 AND (WIDE?? OR BANDGAP? OR BAND()GAP??? OR EV OR IMPURIT?????? OR DOP????????? OR IMPLANT????? OR CI=DOP)
S27	4	S25 AND POWER AND SWITCH????????
S28	2	S27 NOT S26
S29	2	S28 NOT S3
S30	9	S25 AND SEMICOND????????(4N) (POWER????? OR SWITCH?????)
S31	1	S30 NOT (S3 OR S27 OR S26)
S32	2	S25 NOT (S27 OR S26 OR S31)
S33	2	S32 NOT S3
S34	2	S25 NOT (S29 OR S26 OR S31)
S35	2	S34 NOT S3

FILE 'WPIX, EUROPATFULL, PCTFULL' ENTERED AT 14:55:33 ON 20 JUL 2004

L1 61952 SEA ABB=ON PLU=ON FIELD PLATE OR FIELD ELECTRODE OR PLATE##(2
A)(ELECTRODE OR CONDUCT###)

L2 27873 SEA ABB=ON PLU=ON CONTROL##(2W)(ELECTRODE OR CONDUCT###)

L3 15256 SEA ABB=ON PLU=ON THIRD(W) LAYER OR THIRD(W) SEMICONDUCT####(
W) LAYER

L4 46816 SEA ABB=ON PLU=ON SEPARATE##(2A) ELECTRODE OR SECOND(W)
ELECTRODE OR MAIN ELECTRODES OR PRIMARY ELECTRODES

L5 96 SEA ABB=ON PLU=ON L2 AND L3 AND L4

L6 13 SEA ABB=ON PLU=ON L1 AND L5

L7 75146 SEA ABB=ON PLU=ON N TYPE OR P TYPE OR CONDUCTIVITY TYPE OR
FIRST CONDUCTIVITY

L8 57 SEA ABB=ON PLU=ON L5 AND L7

L9 331756 SEA ABB=ON PLU=ON (BETWEEN OR SEPARAT###)(3A)(CONTROL#### OR
ELECTRODE)

L10 48 SEA ABB=ON PLU=ON L8 AND L9

L11 947 SEA ABB=ON PLU=ON SECOND PRIMARY ELECTRODE OR SECOND MAIN
ELECTRODE

L12 11 SEA ABB=ON PLU=ON L10 AND L11

L13 12 SEA ABB=ON PLU=ON L6 AND (L7 OR L8 OR L9 OR L10 OR L11)

L14 16 SEA ABB=ON PLU=ON (L12 OR L13) AND (FOURTH OR FIFTH) (W) (SEMIC
ONDUCT### OR LAYER)

L15 6 SEA ABB=ON PLU=ON (L12 OR L13 OR L14) AND (POWER OR SWITCH###
)/TI,AB,CE
D TI 1-6
D BIB AB KWIC 1-6

L16 24 SEA ABB=ON PLU=ON L6 OR (L12 OR L13 OR L14 OR L15)
D TI 1-24
D MAX 1

L17 5 SEA ABB=ON PLU=ON (L5 OR L8 OR L10) AND POWER/TI AND
(SWITCH### OR DEVICE)/TI

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SYSTEM:OS - DIALOG OneSearch

File 348:EUROPEAN PATENTS 1978-2004/Jul W02

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File 349:PCT Fulltext 1979-2002/UB=20040708,UT=20040701

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Set	Items	Description
S1	388	(FOURTH OR FOUR) (W) (LAYER??? OR SEMICONDUCT????) /TI, AB, CE
S2	183	(FIVE OR FIFTH) (W) (LAYER??? OR SEMICONDUCT????) /TI, AB, CE
S3	58	1AND2
S4	207	(SEMICONDUCT???? (4N) POWER???? AND POWER???? (4N) SWITCH???? AND SEMICONDUCT???? (4N) SWITCH????) /TI, AB, CE
S5	0	3AND4
S6	1	S1:S2 AND S4
S7	249	(SEMICONDUCT???? (4N) POWER???? AND POWER???? (4N) SWITCH????- ?) /TI, AB, CE
S8	232	(SEMICONDUCT???? (4N) POWER???? AND SEMICONDUCT???? (4N) SWI- TCH????) /TI, AB, CE
S9	289	(POWER???? (4N) SWITCH???? AND SEMICONDUCT???? (4N) SWITCH??- ??) /TI, AB, CE
S10	0	S3 AND S7:S9
S11	1	S1:S2 AND S7:S9
S12	0	S11 NOT S6
S13	227	(FIVE OR FIFTH) (2W) (LAYER??? OR SEMICONDUCT????) /TI, AB, CE
S14	6805	(FIVE OR FIFTH) (2W) (LAYER??? OR SEMICONDUCT????)
S15	0	S7:S9 AND S13
S16	5	S7:S9 AND S14
S17	4	S16 NOT S11